Copyright Registration Information	Cisco	Arista
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	Related Commands Command — Description feature ptp — Enables or disables PTP on the device. ptp source — Configures the source IP address for all PTP packets. ptp domain — Configures the domain number to use for this clock. ptp priority1 — Configures the priority1 value to use when advertising this clock. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 337.	**ptp source ip** The ptp source ip command configures the source IP address for all PTP packets. The IP address can be in IPv4 format. To remove PTP settings, use the no form of this command. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 328.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	Related Commands Command — Description feature ptp — Enables or disables PTP on the device. ptp source — Configures the source IP address for all PTP packets. ptp domain — Configures the domain number to use for this clock. ptp priority1 — Configures the priority1 value to use when advertising this clock. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 337.	**ptp domain** The ptp domain command configures the domain number to use for the clock. PTP domains allow you to use multiple independent PTP clocking subdomains on a single network. To remove PTP settings, use the no form of this command. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 319.

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	Command — Description
	ptp priority1 — Configures the priority1 value to use when advertising this clock.
	ptp priority2 — Configures the priority2 value to use when advertising this clock.
	show ptp brief — Displays the PTP status.
	show ptp clock — Displays the properties of the local clock.
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 340.
		Set the PTP Priority1
		To configure the priority1 value when advertising the clock, use the ptp priority1 command. This value overrides the default criteria for best master clock selection. Lower values take precedence.
		• The ptp priority1 command configures the priority1 value of 120 to use when advertising the clock.
		`switch(config)# ptp priority1 120`
		`switch(config)#`
		Set the PTP Prioriity2
		To configure the priority2 value when advertising this clock, use the ptp priority2 command. This value is used to decide between two devices that are otherwise equally matched in the default criteria.
		• The ptp priority2 command configures the priority2 value of 128 to use when advertising this clock.
		`switch(config)# ptp priority2 128`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 272.

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	ptp sync interval
	
	To configure the interval between Precision Time Protocol (PTP) synchronization messages on an interface, use the **ptp sync interval** command. To remove the interval configuration for PTP messages synchronization, use the **no** form of this command.
	
	ptp sync interval *seconds*
	
	no ptp sync interval *seconds*
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 340.
		Set the Peer Delay Request Interval
		
		To configure the minimum interval allowed between Precision Time Protocol (PTP) peer delay-request messages, use the **ptp pdelay-req interval** command.
		
		• The **ptp pdelay-req interval** command configures the minimum interval allowed between Precision Time Protocol (PTP) peer delay-request messages to 3.
		
		`switch(config-if-Et5)# ptp pdelay-request interval 3`
		`switch(config-if-Et5)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 273.

Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	ptp sync interval
	
	To configure the interval between Precision Time Protocol (PTP) synchronization messages on an interface, use the **ptp sync interval** command. To remove the interval configuration for PTP messages synchronization, use the **no** form of this command.
	
	ptp sync interval *seconds*
	
	no ptp sync interval *seconds*
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 340.
		ptp delay-req interval
		
		The **ptp delay-req interval** command specifies the time recommended to the slave devices to send delay request messages. You must enable PTP on the switch first and configure the source IP address for PTP communication. To remove the minimum interval configuration for PTP delay-request messages, use the no form of this command.
		
		Platform: Arad, FM6000
		Command Mode: Interface-Ethernet Configuration
		Interface-Port Channel Configuration
		
		Command Syntax
		
		`ptp delay-req interval log_interval`
		`no ptp delay-req interval`
		`default ptp delay-req interval`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 318.

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	Related Commands
	
	| Command
		Description |
		|---|---|
		| **ptp** | Enables or disables PTP on an interface. |
		| **ptp announce** | Configures the interval between PTP announce messages on an interface or the number of PTP intervals before a timeout occurs on an interface. |
		| **ptp delay-request minimum interval** | Configures the minimum interval allowed between PTP delay-request messages when the port is in the master state. |
		| **ptp vlan vlan** | Configures the PTP VLAN value on an interface. |
		
		Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 342.
			Examples
			
			• This command shows how to configure the minimum interval allowed between PTP delay-request messages.
			
			`switch(config)# interface ethernet 5`
			`switch(config-if-Et5)# ptp delay-request interval 3`
			`switch(config-if-Et5)#`
			
			• This command removes the configured minimum interval allowed between PTP delay-request messages.
			
			`switch(config)# interface ethernet 5`
			`switch(config-if-Et5)# no ptp delay-request interval`
			`switch(config-if-Et5)#`
			
			Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 318.

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Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	Make sure that you have globally enabled PTP on the device and configured the source IP address for PTP communication. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 343.	The **ptp delay-req interval** command specifies the time recommended to the slave devices to send delay request messages. You must enable PTP on the switch first and configure the source IP address for PTP communication. To remove the minimum interval configuration for PTP delay-request messages, use the no form of this command. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 318.

Cisco NX-OS 6.2
 	
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	Related Commands
	
	Command / **Description**
	ptp — Enables or disables PTP on an interface.
	ptp announce — Configures the interval between PTP announce messages on an interface or the number of PTP intervals before a timeout occurs on an interface.
	ptp delay-request minimum interval — Configures the minimum interval allowed between PTP delay-request messages when the port is in the master state.
	ptp sync interval — Configures the interval between PTP synchronization messages on an interface.
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 344.
		ptp announce interval
		
		The **ptp announce interval** command configures the interval between PTP announcement messages on or the number of PTP intervals before a timeout occurs. To disable this feature, use the no form of this command.
		
		Platform: Arad, FM6000
		Command Mode: Interface-Ethernet Configuration
		Interface-Port Channel Configuration
		
		Command Syntax
		`ptp announce interval log_interval`
		`no ptp announce interval`
		`default ptp announce interval`
		
		Parameters
		• *log_interval* The number of log seconds between PTP announcement message (base 2 log (seconds)). Value ranges from 0 to 4; default value is 1.
		
		Examples
		• This command shows how to configure the interval between PTP announce messages on an interface.
		`switch(config)# interface ethernet 5`
		`switch(config-if-Et5)# ptp announce interval 1`
		`switch(config-if-Et5)#`
		• This command removes the configured interval between PTP announce messages on interface Ethernet 5.
		`switch(config)# interface ethernet 5`
		`switch(config-if-Et5)# no ptp announce interval`
		`switch(config-if-Et5)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 315.

Copyright Registration Information	Cisco	Arista
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**snmp-server user** To configure the Simple Network Management Protocol (SNMP) user information, use the **snmp-server user** command. To disable the configuration or to revert to factory defaults, use the **no** form of this command. **snmp-server user** *username* [*group-name*] [**auth** {**md5** | **sha**} *password* [**priv** [**aes-128**] *password*] [**localizedkey**] [**engineID** *id*] **no snmp-server user** *username* [*group-name*] [**auth** {**md5** | **sha**} *password* [**priv** [**aes-128**] *password*] [**localizedkey**] [**engineID** *id*] **Syntax Description** *username* — Name of the user. The name can be any case-sensitive, alphanumeric string up to 32 characters. *group-name* — (Optional) Name of the group. The name can be any case-sensitive, alphanumeric string up to 32 characters. **auth** — (Optional) Sets authentication parameters for the user. **md5** — Uses the MD5 algorithm for authentication. **sha** — Uses the SHA algorithm for authentication. *password* — User password. The password can be any case-sensitive, alphanumeric string up to 64 characters. If you configure the **localizedkey** keyword, the password can be any case-sensitive, alphanumeric string up to 130 characters **priv** — (Optional) Sets encryption parameters for the user. **aes-128** — (Optional) Sets the 128-byte AES algorithm for privacy. **localizedkey** — (Optional) Sets passwords in the localized key format. If you configure this keyword, the password can be any case-sensitive, alphanumeric string up to 130 characters. **engineID** *id* — (Optional) Configures the SNMP Engine ID for a notification target user. The engineID format is a 12-digit colon-separated decimal number. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 394.	**snmp-server user** The **snmp-server user** command adds a user to a Simple Network Management Protocol (SNMP) group or modifies an existing user's parameters. To configure a remote user, specify the IP address or port number of the device where the user's remote SNMP agent resides. A remote agent's engine ID must be configured before remote users for that agent are configured. A user's authentication and privacy digests are derived from the engine ID and the user's password. The configuration command fails if the remote engine ID is not configured first. The **no snmp-server user** and **default snmp-server user** commands remove the user from an SNMP group by deleting the user command from *running-config*. Platform — all Command Mode — Global Configuration Command Syntax **snmp-server user** *user_name group_name* [*AGENT*] *VERSION* [*ENGINE*] [*SECURITY*] **no snmp-server user** *user_name group_name* [*AGENT*] *VERSION* **default snmp-server user** *user_name group_name* [*AGENT*] *VERSION* Parameters • *user_name* — name of the user on the host that connects to the agent. • *group_name* — name of the group to which the user is associated. • *AGENT* — location of the host connecting to the SNMP agent. Configuration options include: — <no parameter> — local SNMP agent. — **remote** *addr* [**udp-port** *p_num*] — remote SNMP agent location (IP address, udp port). *addr* denotes the IP address; *p_num* denotes the udp port socket. (default port is 162). • *VERSION* — SNMP version; options include: — **v1** SNMPv1. — **v2c** SNMPv2c. — **v3** SNMPv3; enables user-name match authentication. • *ENGINE* — engine ID used to localize passwords. Available only if *VERSION* is v3. — <no parameter> Passwords localized by SNMP copy specified by *agent*. — **localized** *engineID* octet string of engineID. • *SECURITY* — Specifies authentication and encryption levels. Available only if *VERSION* is v3. Encryption is available only when authentication is configured. — <no parameter> no authentication or encryption. — **auth** *a_meth a_pass* [**priv** *e_meth e_pass*] authentication and encryption parameters. *a-meth* authentication method: options are **md5** (HMAC-MD5-96) and **sha** (HMAC-SHA-96). *a-pass* authentication string for users receiving packets. *e-meth* encryption method: tions are **aes** (AES-128) and **des** (CBC-DES). *e-pass* encryption string for the users sending packets. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 1999.

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	Examples
	This example shows how to display the EEE status on an interface:
	`switch# show interface ethernet2/6`
	`Ethernet2/6 is down (Link not connected)`
	`admin state is up, Dedicated Interface`
	`Hardware: 10000 Ethernet, address: 0022.5579.de41 (bia 001b.54c1.af5d)`
	`MTU 1500 bytes, BW 10000000 Kbit, DLY 10 usec`
	`reliability 255/255, txload 1/255, rxload 1/255`
	`Encapsulation ARPA, medium is broadcast`
	`auto-duplex, auto-speed, media type is 10G`
	`Beacon is turned off`
	`Auto-Negotiation is turned off`
	`Input flow-control is off, output flow-control is off`
	`Auto-mdix is turned off`
	`Rate mode is shared`
	`Switchport monitor is off`
	`EtherType is 0x8100`
	`EEE (efficient-ethernet) : n/a`
	`Last link flapped never`
	`Last clearing of "show interface" counters never`
	`0 interface resets`
	`30 seconds input rate 0 bits/sec, 0 packets/sec`
	`30 seconds output rate 0 bits/sec, 0 packets/sec`
	`Load-Interval #2: 5 minute (300 seconds)`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 514.
		Example
		• This command assigns the MAC address of 001c.2804.17e1 to Ethernet interface 7, then displays interface parameters, including the assigned address.
		`switch(config)#interface ethernet 7`
		`switch(config-if-Et7)#mac-address 001c.2804.17e1`
		`switch(config-if-Et7)#show interface ethernet 7`
		`Ethernet3 is up, line protocol is up (connected)`
		`Hardware is Ethernet, address is 001c.2804.17e1 (bia 001c.7312.02e2)`
		`Description: b.e45`
		`MTU 9212 bytes, BW 10000000 Kbit`
		`Full-duplex, 10Gb/s, auto negotiation: off`
		`Last clearing of "show interface" counters never`
		`5 seconds input rate 7.84 kbps (0.0% with framing), 10 packets/sec`
		`5 seconds output rate 270 kbps (0.0% with framing), 24 packets/sec`
		`1363799 packets input, 222736140 bytes`
		`Received 0 broadcasts, 290904 multicast`
		`0 runts, 0 giants`
		`0 input errors, 0 CRC, 0 alignment, 0 symbol`
		`0 PAUSE input`
		`2264927 packets output, 2348747214 bytes`
		`Sent 0 broadcasts, 28573 multicast`
		`0 output errors, 0 collisions`
		`0 late collision, 0 deferred`
		`0 PAUSE output`
		`switch(config-if-Et7)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 437.

Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**Related Commands** **Command** — **Description** show lldp tlv-select — Displays the LLDP TLV configuration. lldp tlv-select — Specifies the TLVs to send and receive in LLDP packets. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 515.	**lldp tlv-select** The lldp tlv-select command allows the user to specify the TLVs to send and receive in LLDP packets. The available TLVs are management-address, port-description, port-vlan, system-capabilities, system-description, and system-name. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 592.

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Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	Related Commands Command / Description show lldp traffic interface ethernet — Displays the number of LLDP packets sent and received on the interface. show running-config lldp — Displays the global LLDP configuration. lldp transmit — Enables the transmission of LLDP packets on an interface. lldp receive — Enables the reception of LLDP packets on an interface. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 522.	**lldp transmit** The lldp transmit command enables the transmission of LLDP packets on an interface. After you globally enable LLDP, it is enabled on all supported interfaces by default. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 593.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	Related Commands Command / Description show lldp holdtime — Specifies the amount of time in seconds that a receiving device should hold the information sent by your device before discarding it. lldp reinit — Specifies the delay time in seconds for LLDP to initialize on any interface. lldp timer — Specifies the transmission frequency of LLDP updates in seconds. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 522.	12.3.3.2 Setting the LLDP Hold Time The lldp holdtime command specifies the amount of time in seconds that a receiving device should hold the information sent by the device before discarding it. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 578.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	Related Commands Command / Description show lldp holdtime — Specifies the amount of time in seconds that a receiving device should hold the information sent by your device before discarding it. lldp reinit — Specifies the delay time in seconds for LLDP to initialize on any interface. lldp timer — Specifies the transmission frequency of LLDP updates in seconds. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 522.	**lldp reinit** The lldp reinit command specifies the delay time in seconds for LLDP to initialize on any interface. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 589.

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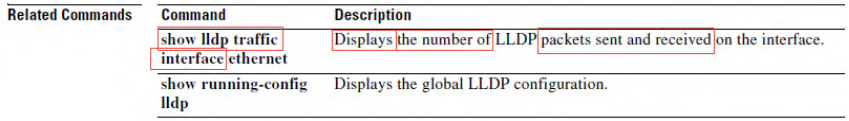
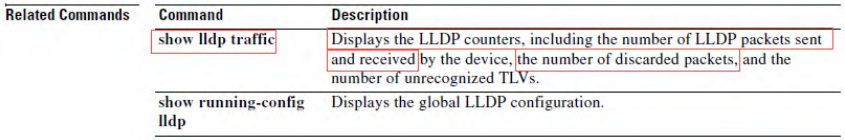
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	 Related Commands Command: show lldp traffic interface ethernet — Description: Displays the number of LLDP packets sent and received on the interface. Command: show running-config lldp — Description: Displays the global LLDP configuration. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 527.	**show lldp traffic** The show lldp traffic command displays LLDP counters, including the number of packets sent and received, and the number of packets discarded. Platform all Command Mode EXEC Command Syntax `show lldp traffic [INTERFACE]` Parameters • *INTERFACE* Interface type and numbers. Options include: — <no parameter> Display information for all interfaces. — ethernet *e_range* Ethernet interface range specified by *e_range*. — management *m_range* Management interface range specified by *m_range*. Valid *e_range* and *m_range* formats include number, number range, or comma-delimited list of numbers and ranges. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 599.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	 Related Commands Command: show lldp traffic — Description: Displays the LLDP counters, including the number of LLDP packets sent and received by the device, the number of discarded packets, and the number of unrecognized TLVs. Command: show running-config lldp — Description: Displays the global LLDP configuration. Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 529.	**show lldp traffic** The show lldp traffic command displays LLDP counters, including the number of packets sent and received, and the number of packets discarded. Platform all Command Mode EXEC Command Syntax `show lldp traffic [INTERFACE]` Parameters • *INTERFACE* Interface type and numbers. Options include: — <no parameter> Display information for all interfaces. — ethernet *e_range* Ethernet interface range specified by *e_range*. — management *m_range* Management interface range specified by *m_range*. Valid *e_range* and *m_range* formats include number, number range, or comma-delimited list of numbers and ranges. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 599.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	show ptp clock
	
	To display the Precision Time Protocol (PTP) clock information, use the **show ptp clock** command.
	
	show ptp clock
	
	Syntax Description This command has no arguments or keywords.
	
	Defaults None
	
	Command Modes Any command mode
	
	SupportedUserRoles network-admin
	network-operator
	vdc-admin
	vdc-operator
	
	Command History
	Release: 5.2(1) — Modification: This command was introduced.
	
	Usage Guidelines This command does not require a license.
	
	Examples This example shows how to display the PTP clock information:
	`switch# show ptp clock`
	`PTP Device Type: Boundary clock`
	`Clock Identity : 0:18:ba:ff:ff:d8: e:17`
	`Clock Domain: 0`
	`Number of PTP ports: 2`
	`Priority1 : 255`
	`Priority2 : 255`
	`Clock Quality:`
	`Class : 248`
	`Accuracy : 254`
	`Offset (log variance) : 65535`
	`Offset From Master : 0`
	`Mean Path Delay : 0`
	`Steps removed : 1`
	`Local clock time:Sun Jan 15 20:57:29 2011`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 601.
		Show PTP Clock and Offset
		
		To display the Precision Time Protocol (PTP) local clock and offset, use the show ptp clock command.
		
		• The show ptp clock command displays the Precision Time Protocol (PTP) local clock and offset.
		`switch#show ptp clock`
		`PTP Mode: Boundary Clock`
		`Clock Identity: 0x00:1c:73:ff:ff:1e:83:24`
		`Clock Domain: 1`
		`Number of PTP ports: 24`
		`Priority1: 128`
		`Priority2: 128`
		`Clock Quality:`
		`Class: 248`
		`Accuracy: 0x30`
		`OffsetScaledLogVariance: 0xffff`
		`Offset From Master: 0`
		`Mean Path Delay: 0`
		`Steps Removed: 0`
		`switch#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 275.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	show ptp clock foreign-masters-record
	
	To display information about the state of foreign masters known to the Precision Time Protocol (PTP) process, use the **show ptp clocks foreign-masters-record** command.
	
	show ptp clock foreign-masters-record {interface [ethernet]}
	
	Syntax DescriptionT
	interface — Specifies an interface.
	ethernet — (Optional) Specifies an Ethernet interface.
	
	Defaults
	None
	
	Command Modes
	Any command mode
	
	SupportedUserRoles
	network-admin
	network-operator
	vdc-admin
	vdc-operator
	
	Command History
	Release — **Modification**
	5.2(1) — This command was introduced.
	
	Usage Guidelines
	This command does not require a license.
	
	Examples
	This example shows how to display information about the state of foreign masters known to the PTP process:
	`switch# show ptp clock foreign-masters-record interface ethernet 7/1`
	`RP/0/0/CPU0:demo#show ptp clocks foreign-masters`
	`P1=Priority1, P2=Priority2, C=Class, A=Accuracy,`
	`OSLV=Offset-Scaled-Log-Variance, SR=Steps-Removed`
	`GM=Is grandmaster`
	
	`Interface Clock-ID P1 P2 C A OSLV SR`
	`Eth7/10 0:18:ba:ff:ff:d8: e:16 255 255 248 254 65535 0 GM`
	`Eth7/1 0:18:ba:ff:ff:d8: e:16 255 255 248 254 65535 0 GM`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 603.
		Show PTP Foreign Master
		
		To display information about the state of foreign masters known to the Precision Time Protocol (PTP) process, use the show ptp foreign-master-record command.
		
		• The show ptp foreign-master-records command displays information about the state of foreign masters known to the PTP process.
		`switch# show ptp clocks foreign-masters-record`
		`No Foreign Master Records`
		`switch#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 277.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	Examples
	This example shows how to display information about the state of foreign masters known to the PTP process:
	`switch# show ptp clock foreign-masters-record interface ethernet 7/1`
	`RP/0/0/CPU0:demo#show ptp clocks foreign-masters`
	`P1=Priority1, P2=Priority2, C=Class, A=Accuracy,`
	`OSLV=Offset-Scaled-Log-Variance, SR=Steps-Removed`
	`GM=Is grandmaster`
	
	`Interface Clock-ID P1 P2 C A OSLV SR`
	`Eth7/10 0:18:ba:ff:ff:d8: e:16 255 255 248 254 65535 0 GM`
	`Eth7/1 0:18:ba:ff:ff:d8: e:16 255 255 248 254 65535 0 GM`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 603.
		Examples
		• This command shows how to display information about the state of foreign masters known to the PTP process.
		`switch# show ptp clocks foreign-masters-record`
		`No Foreign Master Records`
		`switch#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 349.

Copyright Registration Information	Cisco	Arista

Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	show ptp parent
	
	To display information about the parent and grand master of the Precision Time Protocol (PTP) clock, use the **show ptp parent** command.
	
	show ptp parent
	
	Syntax Description This command has no arguments or keywords.
	
	Defaults None
	
	Command Modes Any command mode
	
	SupportedUserRoles network-admin
	network-operator
	vdc-admin
	vdc-operator
	
	Command History
	Release: 5.2(1) — Modification: This command was introduced.
	
	Usage Guidelines This command does not require a license.
	
	Examples This example shows how to display information about the parent and grand master of the PTP clock:
	`switch# show ptp parent`
	`Parent Clock:`
	`Parent Clock Identity: 0:18:ba:ff:ff:d8: e:16`
	`Parent Port Number: 1546`
	`Observed Parent Offset (log variance): N/A`
	`Observed Parent Clock Phase Change Rate: N/A`
	
	`Grandmaster Clock:`
	`Grandmaster Clock Identity: 0:18:ba:ff:ff:d8: e:16`
	`Grandmaster Clock Quality:`
	`Class: 248`
	`Accuracy: 254`
	`Offset (log variance): 65535`
	`Priority1: 255`
	`Priority2: 255`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 607.
		Show PTP Parent Information
		
		To display information about the parent and grand master of the Precision Time Protocol (PTP) clock, use the show ptp parent command.
		
		• The show ptp parent command displays information about the parent and grand master of the Precision Time Protocol (PTP) clock.
		`switch# show ptp parent`
		`Parent Clock:`
		`Parent Clock Identity: 0x00:1c:73:ff:ff:00:72:40`
		`Parent Port Number: 0`
		`Parent IP Address: N/A`
		`Observed Parent Offset (log variance): N/A`
		`Observed Parent Clock Phase Change Rate: N/A`
		
		`Grandmaster Clock:`
		`Grandmaster Clock Identity: 0x00:1c:73:ff:ff:00:72:40`
		`Grandmaster Clock Quality:`
		`Class: 248`
		`Accuracy: 0x30`
		`OffsetScaledLogVariance: 0xffff`
		`Priority1 128`
		`Priority2 128`
		`switch#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 275.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	show ptp parent
	
	To display information about the parent and grand master of the Precision Time Protocol (PTP) clock, use the **show ptp parent** command.
	
	show ptp parent
	
	Syntax Description This command has no arguments or keywords.
	
	Defaults None
	
	Command Modes Any command mode
	
	SupportedUserRoles network-admin
	network-operator
	vdc-admin
	vdc-operator
	
	Command History
	Release: 5.2(1) — Modification: This command was introduced.
	
	Usage Guidelines This command does not require a license.
	
	Examples This example shows how to display information about the parent and grand master of the PTP clock:
	`switch# show ptp parent`
	`Parent Clock:`
	`Parent Clock Identity: 0:18:ba:ff:ff:d8: e:16`
	`Parent Port Number: 1546`
	`Observed Parent Offset (log variance): N/A`
	`Observed Parent Clock Phase Change Rate: N/A`
	
	`Grandmaster Clock:`
	`Grandmaster Clock Identity: 0:18:ba:ff:ff:d8: e:16`
	`Grandmaster Clock Quality:`
	`Class: 248`
	`Accuracy: 254`
	`Offset (log variance): 65535`
	`Priority1: 255`
	`Priority2: 255`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 607.
		show ptp parent
		
		The show ptp parent command displays information about the parent and grand master of the Precision Time Protocol (PTP) clock.
		
		Platform Arad, FM6000
		Command Mode Privileged EXEC
		
		Command Syntax
		`show ptp parent`
		
		Examples
		• This command shows how to display information about the parent and master of the PTP clock.
		`switch# show ptp parent`
		`Parent Clock:`
		`Parent Clock Identity: 0x00:1c:73:ff:ff:00:72:40`
		`Parent Port Number: 0`
		`Parent IP Address: N/A`
		`Observed Parent Offset (log variance): N/A`
		`Observed Parent Clock Phase Change Rate: N/A`
		
		`Grandmaster Clock:`
		`Grandmaster Clock Identity: 0x00:1c:73:ff:ff:00:72:40`
		`Grandmaster Clock Quality:`
		`Class: 248`
		`Accuracy: 0x30`
		`OffsetScaledLogVariance: 0xffff`
		`Priority1: 128`
		`Priority2: 128`
		`switch#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 352.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	show ptp time-property
	
	To display the Precision Time Protocol (PTP) clock properties, use the **show ptp time-property** command.
	
	show ptp time-property
	
	Syntax Description This command has no arguments or keywords.
	
	Defaults None
	
	Command Modes Any command mode
	
	SupportedUserRoles network-admin
	network-operator
	vdc-admin
	vdc-operator
	
	Command History
	Release 5.2(1) — **Modification** This command was introduced.
	
	Usage Guidelines This command does not require a license.
	
	Examples This example shows how to display the PTP clock properties:
	`switch# show ptp time-property`
	`PTP CLOCK TIME PROPERTY:`
	`Current UTC Offset valid: 0`
	`Current UTC Offset: 33`
	`Leap59: 0`
	`Leap61: 0`
	`Time Traceable: 0`
	`Frequency Traceable: 0`
	`PTP Timescale: 0`
	`Time Source: 0xA0(internal Osccilator)`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 611.
		Show PTP Clock Properties
		
		To display the Precision Time Protocol (PTP) clock properties, use the show ptp time-property command.
		
		• The show ptp time-property command displays the Precision Time Protocol (PTP) clock properties.
		`switch# show ptp time-property`
		`Current UTC offset valid: False`
		`Current UTC offset: 0`
		`Leap 59: False`
		`Leap 61: False`
		`Time Traceable: False`
		`Frequency Traceable: False`
		`PTP Timescale: False`
		`Time Source: 0x0`
		`switch#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 275-76.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	show ptp time-property
	
	To display the Precision Time Protocol (PTP) clock properties, use the **show ptp time-property** command.
	
	show ptp time-property
	
	Syntax Description This command has no arguments or keywords.
	
	Defaults None
	
	Command Modes Any command mode
	
	SupportedUserRoles network-admin
	network-operator
	vdc-admin
	vdc-operator
	
	Command History
	Release 5.2(1)
	Modification This command was introduced.
	
	Usage Guidelines This command does not require a license.
	
	Examples This example shows how to display the PTP clock properties:
	`switch# show ptp time-property`
	`PTP CLOCK TIME PROPERTY:`
	`Current UTC offset valid: 0`
	`Current UTC offset: 33`
	`Leap59: 0`
	`Leap61: 0`
	`Time Traceable: 0`
	`Frequency Traceable: 0`
	`PTP Timescale: 0`
	`Time Source: 0xA0(internal Osccilator)`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 611.
		show ptp time-property
		
		The **show ptp time-property** command displays the Precision Time Protocol (PTP) clock properties.
		
		Platform Arad, FM6000
		Command Mode Privileged EXEC
		
		Command Syntax
		show ptp time-property
		
		Examples
		• This command shows the PTP clock properties.
		`switch# show ptp time-property`
		`Current UTC offset valid: False`
		`Current UTC offset: 0`
		`Leap 59: False`
		`Leap 61: False`
		`Time Traceable: False`
		`Frequency Traceable: False`
		`PTP Timescale: False`
		`Time Source: 0x0`
		`switch#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 354.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	Examples
	This example shows how to display the SNMP information:
	`switch(config)# show snmp`
	`sys contact:`
	`sys location: anyplace, Anywhere`
	
	`0 SNMP packets input`
	`0 Bad SNMP versions`
	`0 Unknown community name`
	`0 Illegal operation for community name supplied`
	`0 Encoding errors`
	`0 Number of requested variables`
	`0 Number of altered variables`
	`0 Get-request PDUs`
	`0 Get-next PDUs`
	`0 Set-request PDUs`
	`0 SNMP packets output`
	`0 Too big errors`
	`0 No such name errors`
	`0 Bad values errors`
	`0 General errors`
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 634.
		Example
		• This command configures *xyz-1234* as the chassis-ID string, then displays the result.
		`switch(config)#snmp-server chassis-id xyz-1234`
		`switch(config)#show snmp`
		`Chassis: xyz-1234` *<---chassis ID*
		
		`8 SNMP packets input`
		`0 Bad SNMP version errors`
		`0 Unknown community name`
		`0 Illegal operation for community name supplied`
		`0 Encoding errors`
		`8 Number of requested variables`
		`0 Number of altered variables`
		`4 Get-request PDUs`
		`4 Get-next PDUs`
		`0 Set-request PDUs`
		`21 SNMP packets output`
		`0 Too big errors`
		`0 No such name errors`
		`0 Bad value errors`
		`0 General errors`
		`8 Response PDUs`
		`0 Trap PDUs`
		`SNMP logging: enabled`
		`Logging to taccon.162`
		`SNMP agent enabled`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 354.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	show snmp engineID
	
	To display the Simple Network Management Protocol (SNMP) engine ID, use the **show snmp engineID** command.
	
	show snmp engineID
	
	Syntax Description This command has no arguments or keywords.
	
	Defaults None
	
	Command Modes Any command mode
	
	SupportedUserRoles network-admin
	network-operator
	vdc admin
	vdc-operator
	
	Command History
	Release — **Modification**
	4.0(1) — This command was introduced.
	
	Usage Guidelines This command does not require a license.
	
	Examples This example shows how to display the SNMP engine ID:
	`switch(config)# show snmp engineID`
	`Local SNMP engineID: [Hex] 800000903000573008A750C`
	`[Dec] 128:000:000:009:003:000:005:048:010:011:012`
	
	Related Commands
	Command — **Description**
	snmp-server user — Configures SNMP target notification users.
	
	Cisco Nexus 7000 Series NX-OS System Management Command Reference (2013), at 639.
		show snmp engineID
		
		The show snmp engineID command displays the identification of the local Simple Network Management Protocol (SNMP) engine and of all remote engines that are configured on the switch.
		
		Platform all
		Command Mode EXEC
		
		Command Syntax
		`show snmp engineID`
		
		Example
		• This command displays the ID of the local SNMP engine.
		`switch>show snmp engineid`
		`Local SNMP EngineID: f5717f001c730436d700`
		`switch>`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 1978.

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Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**Precision Time Protocol** The Precision Time Protocol (PTP) is a time synchronization protocol for nodes distributed across a network. Its hardware timestamp feature provides greater accuracy than other time synchronization protocols such as Network Time Protocol (NTP). For more information about PTP, see Chapter 4, "Configuring PTP." Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 1-3.	5.3.2 Precision Time Protocol (PTP) The Precision Time Protocol (PTP) can substantially enhance the accuracy of real-time clocks in networked devices by providing sub-microsecond clock synchronization. Inbound clock signals are organized into a master-slave hierarchy. PTP identifies the switch port that is connected to the device with the most precise clock. This clock is referred to as the master clock. All the other devices on the network synchronize their clocks with the master and are referred to as slaves. The master clock sends out a sync message every second. The slave clock sends a delay request message to the master clock noting the time it was sent in order to measure and eliminate packet delays. The master clock then replies with the time stamp the delay message was received. The slave clock then computes the master clock time compensated for delays and finalizes synchronization. Constantly exchanged timing messages ensure continued synchronization. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 270.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**SNMP** The Simple Network Management Protocol (SNMP) is an application-layer protocol that provides a message format for communication between SNMP managers and agents. SNMP provides a standardized framework and a common language used for the monitoring and management of devices in a network. For more information, see Chapter 11, "Configuring SNMP." Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 1-5.	**37.2 SNMP Conceptual Overview** Simple Network Management Protocol (SNMP) is an application-layer protocol that provides a standardized framework and a common language to monitor and manage network devices. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 1961.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**SNMP** The Simple Network Management Protocol (SNMP) is an application-layer protocol that provides a message format for communication between SNMP managers and agents. SNMP provides a standardized framework and a common language used for the monitoring and management of devices in a network. For more information, see Chapter 11, "Configuring SNMP." Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 1-5.	Chapter 37 SNMP SNMP is an application-layer protocol that provides a standardized framework and a common language to monitor and manage network devices. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 43.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	Configuring the NTP Source IP Address
	
	NTP sets the source IP address for all NTP packets based on the address of the interface through which the NTP packets are sent. You can configure NTP to use a specific source IP address.
	
	To configure the NTP source IP address, use the following command in global configuration mode:
	
	Command — **Purpose**
	[no] ntp source ip-address — Configures the source IP address for all NTP packets. The *ip-address* can be in IPv4 or IPv6 format.
	
	Example:
	switch(config)# ntp source 192.0.2.1
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 3-16.
		Configure the Source IP
		
		To configure the source IP address for all PTP packets, use the ptp source ip command.
		
		• The ptp source ip command configures the source IP address of 10.0.2.1 for all PTP packets.
		`switch(config)# ptp source ip 10.0.2.1`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 272.

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Effective date of registration: 11/13/2014
	Configuration Examples for NTP
	
	This example shows how to configure an NTP server and peer, enable NTP authentication, enable NTP logging, and then save the configuration in startup so that it is saved across reboots and restarts:
	
	`switch# config t`
	`Enter configuration commands, one per line. End with CNTL/Z.`
	`switch(config)# ntp server 192.0.2.105 key 42`
	`switch(config)# ntp peer 2001:0db8::4101`
	`switch(config)# show ntp peers`
	`----------------------------------------------------`
	`Peer IP Address Serv/Peer`
	`----------------------------------------------------`
	`2001:db8::4101 Peer (configured)`
	`192.0.2.105 Server (configured)`
	`switch(config)# ntp authentication-key 42 md5 aNiceKey`
	`switch(config)# show ntp authentication-keys`
	`----------------------------`
	`Auth key MD5 String`
	`----------------------------`
	`42 aNicekey`
	`switch(config)# ntp trusted-key 42`
	`switch(config)# show ntp trusted-keys`
	`Trusted Keys:`
	`42`
	`switch(config)# ntp authenticate`
	`switch(config)# show ntp authentication-status`
	`Authentication enabled.`
	`switch(config)# ntp logging`
	`switch(config)# show ntp logging`
	`NTP logging enabled.`
	`switch(config)# copy running-config startup-config`
	`[########################################] 100%`
	`switch(config)#`
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 3-25.
		Example
		
		• These commands configure the switch to authenticate NTP packets using key 328 with the plaintext password "timeSync."
		`switch(config)# ntp authentication-key 328 md5 timeSync`
		`switch(config)# ntp trusted key 328`
		`switch(config)# ntp authenticate`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 270.

<table>
<tr><th>Copyright Registration Information</th><th>Cisco</th><th>Arista</th></tr>
<tr>
<td>Cisco NX-OS 6.2

Effective date of registration: 11/13/2014</td>
<td>
<table>
<tr><td>Step 4</td><td>[no] ptp domain number

Example:
switch(config)# ptp domain 1</td><td>(Optional) Configures the domain number to use for this clock. PTP domains allow you to use multiple independent PTP clocking subdomains on a single network. The range is from 0 to 128.</td></tr>
<tr><td>Step 5</td><td>[no] ptp priority1 value

Example:
switch(config)# ptp priority1 10</td><td>(Optional) Configures the priority1 value to use when advertising this clock. This value overrides the default criteria (clock quality, clock class, and so on) for best master clock selection. Lower values take precedence. The range is from 0 to 255.</td></tr>
<tr><td>Step 6</td><td>[no] ptp priority2 value

Example:
switch(config)# ptp priority2 20</td><td>(Optional) Configures the priority2 value to use when advertising this clock. This value is used to decide between two devices that are otherwise equally matched in the default criteria. For example, you can use the priority2 value to give a specific switch priority over other identical switches. The range is from 0 to 255.</td></tr>
</table>
Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 4-6.
</td>
<td>
ptp domain

The ptp domain command configures the domain number to use for the clock. PTP domains allow you to use multiple independent PTP clocking subdomains on a single network. To remove PTP settings, use the no form of this command.

Platform Arad, FM6000
Command Mode Global Configuration

Command Syntax
ptp domain domain_number
no ptp domain
default ptp domain

Parameters
• domain_number The domain number to use for the clock. Value ranges from 0 to 255.

Examples
• This command shows how to configure domain 1 for use with a clock.
switch(config)# ptp domain 1
switch(config)#
• This command removes the configured domain 1 for use with a clock.
switch(config)# no ptp domain 1
switch(config)#

Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 319.
</td>
</tr>
</table>

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Effective date of registration: 11/13/2014
	Step 4 `[no] ptp domain number`
	Example: `switch(config)# ptp domain 1`
	(Optional) Configures the domain number to use for this clock. PTP domains allow you to use multiple independent PTP clocking subdomains on a single network. The range is from 0 to 128.
	
	Step 5 `[no] ptp priority1 value`
	Example: `switch(config)# ptp priority1 10`
	(Optional) Configures the priority1 value to use when advertising this clock. This value overrides the default criteria (clock quality, clock class, and so on) for best master clock selection. Lower values take precedence. The range is from 0 to 255.
	
	Step 6 `[no] ptp priority2 value`
	Example: `switch(config)# ptp priority2 20`
	(Optional) Configures the priority2 value to use when advertising this clock. This value is used to decide between two devices that are otherwise equally matched in the default criteria. For example, you can use the priority2 value to give a specific switch priority over other identical switches. The range is from 0 to 255.
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 4-6.
		ptp priority1
		
		The ptp priority1 command configures the priority1 value to use when advertising the clock. This value overrides the default criteria for best master clock selection. Lower values take precedence. The range is from 0 to 255. To remove PTP settings, use the no form of this command.
		
		Platform Arad, FM6000
		Command Mode Global Configuration
		
		Command Syntax
		`ptp priority1 priority_rate`
		`no ptp priority1`
		`default ptp priority1`
		
		Parameters
		• *priority_rate* The value to override the default criteria (clock quality, clock class, etc.) for best master clock selection. Lower values take precedence. Value ranges from 0 to 255. The default is 128.
		
		Examples
		• This command configures the preference level for a clock; slave devices use the priority1 value when selecting a master clock.
		`switch(config)# ptp priority1 120`
		`switch(config)#`
		• This command removes the configured the preference level for a clock.
		`switch(config)# no ptp priority1`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 326.

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	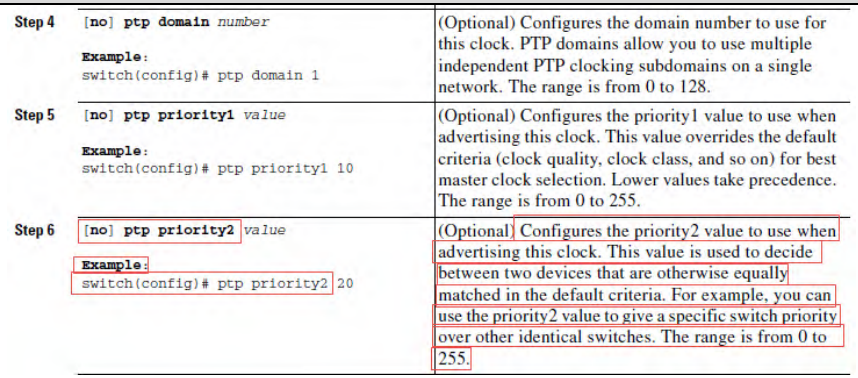
	Step 4 `[no] ptp domain number` — Example: `switch(config)# ptp domain 1` — (Optional) Configures the domain number to use for this clock. PTP domains allow you to use multiple independent PTP clocking subdomains on a single network. The range is from 0 to 128.
	Step 5 `[no] ptp priority1 value` — Example: `switch(config)# ptp priority1 10` — (Optional) Configures the priority1 value to use when advertising this clock. This value overrides the default criteria (clock quality, clock class, and so on) for best master clock selection. Lower values take precedence. The range is from 0 to 255.
	Step 6 `[no] ptp priority2 value` — Example: `switch(config)# ptp priority2 20` — (Optional) Configures the priority2 value to use when advertising this clock. This value is used to decide between two devices that are otherwise equally matched in the default criteria. For example, you can use the priority2 value to give a specific switch priority over other identical switches. The range is from 0 to 255.
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 4-6.
		ptp priority2
		
		The ptp priority2 command configures the priority2 value to use when advertising this clock. This value is used to decide between two devices that are otherwise equally matched in the default criteria. For example, you can use the priority2 value to give a specific switch priority over other identical switches. The range is from 0 to 255. To remove PTP settings, use the no form of this command.
		
		Platform Arad, FM6000
		Command Mode Global Configuration
		
		Command Syntax
		`ptp priority2 priority_rate`
		`no ptp priority2`
		`default ptp priority2`
		
		Parameters
		• *priority_rate* Sets a secondary preference level for a clock; slave devices use the priority2 value when selecting a master clock. Value ranges from 0 to 255.
		
		Examples
		• This command sets a secondary preference level for a clock to 128.
		`switch(config)# ptp priority2 128`
		`switch(config)#`
		• This command removes the secondary preference level for a clock.
		`switch(config)# no ptp priority2`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 327.

Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**BEFORE YOU BEGIN** Make sure that you are in the correct VDC. To change the VDC, use the **switchto vdc** command. Make sure that you have globally enabled PTP on the device and configured the source IP address for PTP communication. Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 4-7.	**ptp delay-req interval** The ptp delay-req interval command specifies the time recommended to the slave devices to send delay request messages. You must enable PTP on the switch first and configure the source IP address for PTP communication. To remove the minimum interval configuration for PTP delay-request messages, use the no form of this command. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 318.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	Step 4 `[no] ptp announce {interval` *seconds* `| timeout` *count*`}` — (Optional) Configures the interval between PTP announce messages on an interface or the number of PTP intervals before a timeout occurs on an interface.
	The range for the PTP announcement interval is from 0 to 4 seconds, and the range for the interval timeout is from 2 to 10.
	
	Example:
	`switch(config-if)# ptp announce interval 1`
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 4-8.
		ptp announce interval
		
		The ptp announce interval command configures the interval between PTP announcement messages on or the number of PTP intervals before a timeout occurs. To disable this feature, use the no form of this command.
		
		Platform: Arad, FM6000
		Command Mode: Interface-Ethernet Configuration
		Interface-Port Channel Configuration
		
		Command Syntax
		`ptp announce interval` *log_interval*
		`no ptp announce interval`
		`default ptp announce interval`
		
		Parameters
		• *log_interval* The number of log seconds between PTP announcement message (base 2 log (seconds)). Value ranges from 0 to 4; default value is 1.
		
		Examples
		• This command shows how to configure the interval between PTP announce messages on an interface.
		`switch(config)# interface ethernet 5`
		`switch(config-if-Et5)# ptp announce interval 1`
		`switch(config-if-Et5)#`
		• This command removes the configured interval between PTP announce messages on interface Ethernet 5.
		`switch(config)# interface ethernet 5`
		`switch(config-if-Et5)# no ptp announce interval`
		`switch(config-if-Et5)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 315.

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Cisco NX-OS 6.2
 	
Effective date of registration: 11/13/2014
	Step 5 `[no] ptp delay-request minimum interval` *seconds*
	Example:
	`switch(config-if)# ptp delay-request minimum interval 3`
	(Optional) Configures the minimum interval allowed between PTP delay-request messages when the port is in the master state. The range is from –1 to 6 seconds.
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 4-8.
		ptp delay-req interval
		The ptp delay-req interval command specifies the time recommended to the slave devices to send delay request messages. You must enable PTP on the switch first and configure the source IP address for PTP communication. To remove the minimum interval configuration for PTP delay-request messages, use the no form of this command.
		Platform: Arad, FM6000
		Command Mode: Interface-Ethernet Configuration
		Interface-Port Channel Configuration
		Command Syntax
		`ptp delay-req interval log_interval`
		`no ptp delay-req interval`
		`default ptp delay-req interval`
		Parameters
		• *log_interval* The range is -1 second to 8 seconds. The default is 5 log(seconds).
		Examples
		• This command shows how to configure the minimum interval allowed between PTP delay-request messages.
		`switch(config)# interface ethernet 5`
		`switch(config-if-Et5)# ptp delay-request interval 3`
		`switch(config-if-Et5)#`
		• This command removes the configured minimum interval allowed between PTP delay-request messages.
		`switch(config)# interface ethernet 5`
		`switch(config-if-Et5)# no ptp delay-request interval`
		`switch(config-if-Et5)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 318.

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	Verifying the PTP Configuration
	
	To display the PTP configuration, perform one of the following tasks:
	
	Command / **Purpose**
	show ptp brief — Displays the PTP status.
	show ptp clock — Displays the properties of the local clock.
	show ptp clock foreign-masters record [**interface** *interface slot/port*] — Displays the state of foreign masters known to the PTP process. For each foreign master, the output displays the clock identity, basic clock properties, and whether the clock is being used as a grandmaster.
	show ptp corrections — Displays the last few PTP corrections.
	show ptp parent — Displays the properties of the PTP parent.
	show ptp port interface *interface slot/port* — Displays the status of the PTP port.
	show ptp time-property — Displays the properties of the PTP clock.
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 4-9.
		show ptp foreign-master-record
		
		The show ptp foreign-master-record command displays information about the state of foreign masters known to the Precision Time Protocol (PTP) process.
		
		Platform — Arad, FM6000
		Command Mode — EXEC
		
		Command Syntax
		`show ptp foreign-master-record`
		
		Examples
		• This command shows how to display information about the state of foreign masters known to the PTP process.
		`switch# show ptp clocks foreign-masters-record`
		`No Foreign Master Records`
		`switch#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 349.

Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**SNMP Functional Overview** The SNMP framework consists of three parts: • An SNMP manager—The system used to control and monitor the activities of network devices using SNMP. • An SNMP agent—The software component within the managed device that maintains the data for the device and reports these data, as needed, to managing systems. Cisco NX-OS supports the agent and MIB. To enable the SNMP agent, you must define the relationship between the manager and the agent. • A managed information base (MIB)—The collection of managed objects on the SNMP agent. SNMP is defined in RFCs 3411 to 3418. Cisco NX-OS supports SNMPv1, SNMPv2c, and SNMPv3. Both SNMPv1 and SNMPv2c use a community-based form of security. Cisco NX-OS supports SNMP over IPv6. Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 11-2.	37.2.3 SNMP Versions Arista switches support the following SNMP versions: • **SNMPv1**: The Simple Network Management Protocol, defined in RFC 1157. Security is based on community strings. • **SNMPv2c**: Community-string based Administrative Framework for SNMPv2, defined in RFC 1901 RFC 1905, and RFC 1906. SNMPv2c uses the community-based security model of SNMPv1. • **SNMPv3**: Version 3 is an interoperable standards-based protocol defined in RFCs 2273 to 2275. SNMPv3 provides secure access to devices by authenticating and encrypting packets. The security features provided in SNMPv3 are as follows: — *Message integrity*: Ensures packets are not tampered with in transit. — *Authentication*: Determines the message is received from a valid source. — *Encryption*: Scrambling packet contents to prevent an unauthorized source from learning it. Both SNMPv1 and SNMPv2c use a community-based form of security. The community of managers able to access the agent MIB is controlled by a password. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 349.

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Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**SNMPv3** SNMPv3 provides secure access to devices by a combination of authenticating and encrypting frames over the network. The security features provided in SNMPv3 are as follows: • Message integrity—Ensures that a packet has not been tampered with while it was in-transit. • Authentication—Determines that the message is from a valid source. • Encryption—Scrambles the packet contents to prevent it from being seen by unauthorized sources. SNMPv3 provides for both security models and security levels. A security model is an authentication strategy that is set up for a user and the role in which the user resides. A security level is the permitted level of security within a security model. A combination of a security model and a security level determines which security mechanism is employed when handling an SNMP packet. This section includes the following topics: • Security Models and Levels for SNMPv1, v2, v3, page 11-4 • User-Based Security Model, page 11-5 • CLI and SNMP User Synchronization, page 11-5 Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 11-3.	37.2.3 SNMP Versions Arista switches support the following SNMP versions: • **SNMPv1**: The Simple Network Management Protocol, defined in RFC 1157. Security is based on community strings. • **SNMPv2c**: Community-string based Administrative Framework for SNMPv2, defined in RFC 1901, RFC 1905, and RFC 1906. SNMPv2c uses the community-based security model of SNMPv1. • **SNMPv3**: Version 3 is an interoperable standards-based protocol defined in RFCs 2273 to 2275. SNMPv3 provides secure access to devices by authenticating and encrypting packets. The security features provided in SNMPv3 are as follows: — *Message integrity*: Ensures packets are not tampered with in transit. — *Authentication*: Determines the message is received from a valid source. — *Encryption*: Scrambling packet contents to prevent an unauthorized source from learning it. Both SNMPv1 and SNMPv2c use a community-based form of security. The community of managers able to access the agent MIB is controlled by a password. SNMPv2c support includes a bulk retrieval mechanism and more detailed error message reporting. The bulk retrieval mechanism supports the retrieval of tables and large quantities of information, minimizing the number of round-trips required. SNMPv2c error handling includes expanded error codes that distinguish different kinds of error conditions; these conditions are reported through a single error code in SNMPv1. SNMPv2c error return codes report error type. SNMPv3 is a security model which defines an authentication strategy that is configured for a user and the group in which the user resides. A security level is the permitted level of security within the model. A combination of a security model and a security level determines the security mechanism employed to handle an SNMP packet. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 349.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	SNMPv3 uses contexts to distinguish between these multiple instances. An SNMP context is a collection of management information that you can access through the SNMP agent. A device can support multiple contexts for different logical network entities. An SNMP context allows the SNMP manager to access one of the multiple instances of a MIB module supported on the device for the different logical network entities. Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 11-3.	An SNMP context is a collection of management information items accessible by an SNMP entity. Each item of may exist in multiple contexts. Each SNMP entity can access multiple contexts. A context is identified by the EngineID of the hosting device and a context name. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 1994.

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	Step 2 `vlan vlan` — Enters VLAN configuration mode for the VLAN specified.
	Example:
	`switch(config)# vlan 901`
	`switch(config-vlan)#`
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 16-18.
		Example
		• This command creates VLAN 49 and enters VLAN configuration mode for the new VLAN:
		`switch(config)#vlan 49`
		`switch(config-vlan-49)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 803.

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Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	To permit the discovery of non-Cisco devices, the switch also supports the *Link Layer Discovery Protocol (LLDP)*, a vendor-neutral device discovery protocol that is defined in the IEEE 802.1ab standard. LLDP allows network devices to advertise information about themselves to other devices on the network. This protocol runs over the data-link layer, which allows two systems running different network layer protocols to learn about each other. Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-2.	Link Layer Discovery Protocol (LLDP) allows Ethernet network devices to advertise details about themselves, such as device configuration, capabilities and identification, to directly connected devices on the network that are also using LLDP. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 572.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**Guidelines and Limitations** LLDP has the following configuration guidelines and limitations: • LLDP must be enabled on the device before you can enable or disable it on any interfaces. • LLDP is supported only on physical interfaces. • LLDP can discover up to one device per port. • LLDP can discover Linux servers, provided they are not using a converged network adapter (CNA). LLDP cannot discover other types of servers. • DCBXP incompatibility messages might appear when you change the network QoS policy, if a physical loopback connection is in the device. The incompatibility exists for only a short time and then clears. • DCBXP is not supported for the Cisco Nexus 2000 Series Fabric Extender. • Beginning with Cisco NX-OS Release 5.2, LLDP is supported for the Cisco Nexus 2000 Series Fabric Extender. LLDP packets can now be sent and received through the Fabric Extender ports for neighbor discovery. – All LLDP configuration on Fabric Extender ports occurs on the supervisor. LLDP configuration and **show** commands are not visible on the Fabric Extender console. – LLDP is not supported for a Fabric Extender-virtual port channel (vPC) connection. Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-2.	12.2.4 Guidelines and Limitations LLDP has the following configuration guidelines and limitations: • LLDP must be enabled on the device before you can enable or disable it on any interface. • LLDP is supported only on physical interfaces. • LLDP can discover up to one device per port. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 576.

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	Enabling or Disabling LLDP on an Interface
	
	After you globally enable LLDP, it is enabled on all supported interfaces by default. However, you can enable or disable LLDP on individual interfaces or selectively configure an interface to only send or only receive LLDP packets.
	
	Note If the interface is configured as a tunnel port, LLDP is disabled automatically.
	
	BEFORE YOU BEGIN
	
	Make sure that you are in the correct VDC. To switch VDCs, use the **switchto vdc** command.
	Make sure that you have globally enabled LLDP on the device.
	
	SUMMARY STEPS
	
	1. **config t**
	2. **interface ethernet** *slot/port*
	3. **[no] lldp transmit**
	4. **[no] lldp receive**
	5. **(Optional) show lldp interface ethernet** *slot/port*
	6. **(Optional) copy running-config startup-config**
	
	DETAILED STEPS
	
	Step 1 `config t`
	Purpose: Enters global configuration mode.
	Example:
	`switch# config t`
	`Enter configuration commands, one per line. end with CNTL/Z.`
	`switch(config)#`
	
	Step 2 `interface ethernet slot/port`
	Purpose: Specifies the interface on which you are enabling LLDP and enters the interface configuration mode.
	example:
	`switch(config)# interface ethernet 7/1`
	`switch(config-if)`
	
	Step 3 `[no] lldp transmit`
	Purpose: Enables or disables the transmission of LLDP packets on an interface. After you globally enable LLDP, it is enabled on all supported interfaces by default.
	example:
	`switch(config-if)# lldp transmit`
	
	Step 4 `[no] lldp receive`
	Purpose: Enables or disables the reception of LLDP packets on an interface. After you globally enable LLDP, it is enabled on all supported interfaces by default.
	example:
	`switch(config-if)# lldp receive`
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-6.
		12.3.2 Enabling LLDP on an Interface
		
		After you globally enable LLDP, it is enabled on all supported interfaces by default. However, by using the **lldp transmit** and **lldp receive** commands, you can enable or disable LLDP on individual interfaces or selectively configure an interface to only send or only receive LLDP packets.
		
		Examples
		
		• These commands enable Ethernet port 3/1 to transmit LLDP packets.
		`switch(config)# interface ethernet 3/1`
		`switch(config-if-Et3/1)# lldp transmit`
		`switch(config-if-Et3/1)#`
		
		• These commands enable Ethernet port 3/1 to receive LLDP packets.
		`switch(config)# interface ethernet 3/1`
		`switch(config-if-Et3/1)# lldp receive`
		`switch(config-if-Et3/1)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 577.

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	Step 3 `[no] lldp transmit` — Enables or disables the transmission of LLDP packets on an interface. After you globally enable LLDP, it is enabled on all supported interfaces by default.
	`Example:` `switch(config-if)# lldp transmit`
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-6.
		lldp transmit
		The lldp transmit command enables the transmission of LLDP packets on an interface. After you globally enable LLDP, it is enabled on all supported interfaces by default.
		Platform: all
		Command Mode: Interface-Ethernet configuration; Interface-Management configuration
		Command Syntax
		`lldp transmit`
		`no lldp transmit`
		`default lldp transmit`
		Examples
		• These commands enable the transmission of LLDP packets on a specific interface.
		`switch(config)#interface ethernet 4/1`
		`switch(config-if-Et4/1)#lldp transmit`
		`switch(config-if-Et4/1)#`
		• These commands disable the transmission of LLDP packets on a specific interface.
		`switch(config)#interface ethernet 4/1`
		`switch(config-if-Et4/1)#no lldp transmit`
		`switch(config-if-Et4/1)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 593.

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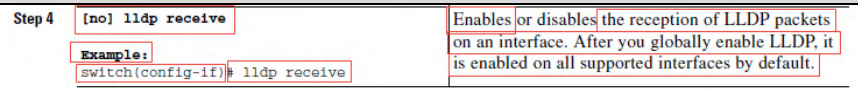
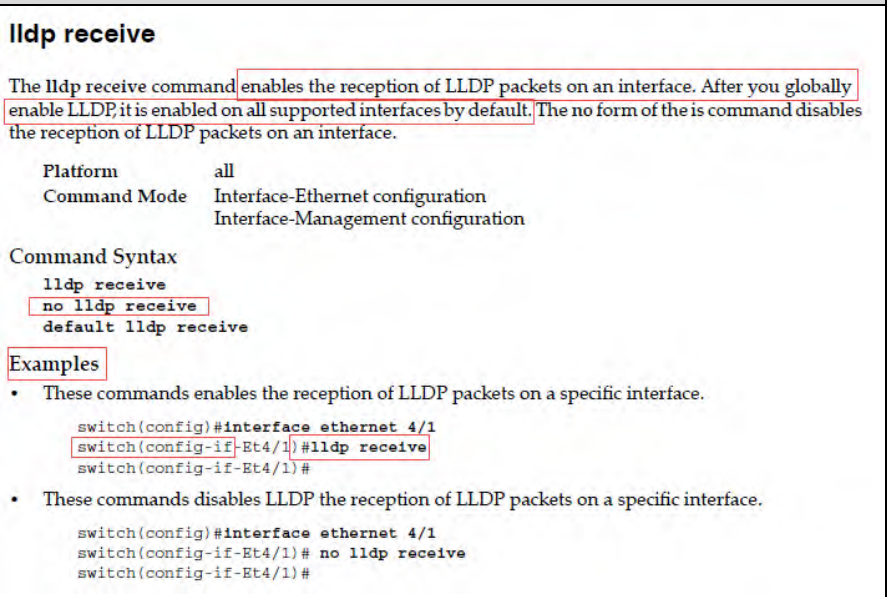
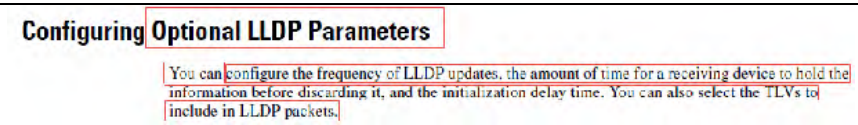
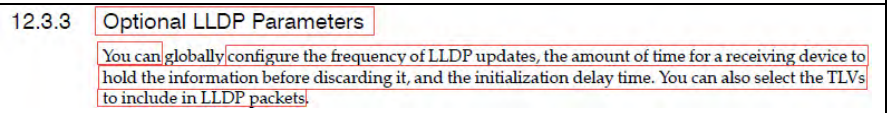
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	 Step 4 [no] lldp receive — Enables or disables the reception of LLDP packets on an interface. After you globally enable LLDP, it is enabled on all supported interfaces by default. Example: switch(config-if)# lldp receive Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-6.	 **lldp receive** The lldp receive command enables the reception of LLDP packets on an interface. After you globally enable LLDP, it is enabled on all supported interfaces by default. The no form of the is command disables the reception of LLDP packets on an interface. Platform all Command Mode Interface-Ethernet configuration Interface-Management configuration Command Syntax lldp receive no lldp receive default lldp receive Examples • These commands enables the reception of LLDP packets on a specific interface. switch(config)#interface ethernet 4/1 switch(config-if-Et4/1)#lldp receive switch(config-if-Et4/1)# • These commands disables LLDP the reception of LLDP packets on a specific interface. switch(config)#interface ethernet 4/1 switch(config-if-Et4/1)# no lldp receive switch(config-if-Et4/1)# Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 588.
Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	 **Configuring Optional LLDP Parameters** You can configure the frequency of LLDP updates, the amount of time for a receiving device to hold the information before discarding it, and the initialization delay time. You can also select the TLVs to include in LLDP packets. Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-7.	 12.3.3 Optional LLDP Parameters You can globally configure the frequency of LLDP updates, the amount of time for a receiving device to hold the information before discarding it, and the initialization delay time. You can also select the TLVs to include in LLDP packets. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 577.

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	Step 2 `[no] lldp holdtime` *seconds*
	Example:
	`switch(config)# lldp holdtime 200`
	
	(Optional) Specifies the amount of time in seconds that a receiving device should hold the information sent by your device before discarding it.
	The range is 10 to 255 seconds; the default is 120 seconds.
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-8.
		12.3.3.2 Setting the LLDP Hold Time
		The lldp holdtime command specifies the amount of time in seconds that a receiving device should hold the information sent by the device before discarding it.
		Examples
		• This command specifies that the receiving device should retain the information for 180 seconds before discarding it.
		`switch(config)# lldp holdtime 180`
		`switch(config)#`
		• This command reverts the LLDP hold time and to the default value of 120 seconds.
		`switch(config)# no lldp holdtime 180`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 578.

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	`[no] lldp reinit` *seconds*
	Example:
	`switch(config)# lldp reinit 5`
	
	(Optional) Specifies the delay time in seconds for LLDP to initialize on any interface.
	The range is 1 to 10 seconds; the default is 2 seconds.
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-8.
		lldp reinit
		The lldp reinit command specifies the delay time in seconds for LLDP to initialize on any interface.
		Platform all
		Command Mode Global Configuration
		Command Syntax
		`lldp reinit delay`
		`no lldp reinit`
		`default lldp reinit`
		Parameters
		• *delay* the amount of time the device should wait before re-initialization is attempted. Value ranges from 1 to 20 seconds; default value is 2 seconds.
		Examples
		• This command specifies that the switch should wait 10 seconds before attempting to re-initialize.
		`switch(config)# lldp reinit 10`
		`switch(config)#`
		• This command removes the re-initialize timer.
		`switch(config)# no lldp reinit 10`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 589.

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	Step 6 `[no] lldp tlv-select tlv`
	Example: `switch(config)# lldp tlv-select system-name`
	(Optional) Specifies the TLVs to send and receive in LLDP packets. The available TLVs are dcbxp, management-address, port-description, port-vlan, system-capabilities, system-description, and system-name. All available TLVs are enabled by default.
	Note For more information about using these TLVs, see the *Cisco Nexus 7000 Series NX-OS System Management Command Reference*.
	
	Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-8.
		lldp tlv-select
		
		The **lldp tlv-select** command allows the user to specify the TLVs to send and receive in LLDP packets. The available TLVs are management-address, port-description, port-vlan, system-capabilities, system-description, and system-name.
		
		Platform all
		Command Mode Global Configuration
		
		Command Syntax
		`lldp tlv-select TLV_NAME`
		`no lldp tlv-select TLV_NAME`
		`default lldp tlv-select TLV_NAME`
		
		Parameters
		• *TLV_NAME* the TLV specifies the information to be sent or received in the LLDP packet: Options include:
		— **link-aggregation** specifies the link aggregation TLV.
		— **management-address** specifies the management address TLV.
		— **max-frame-size** specifies the Frame size TLV.
		— **port-description** specifies the port description TLV.
		— **port-vlan** specifies the port VLAN ID TLV.
		— **system-capabilities** specifies the system capabilities TLV.
		— **system-description** specifies the system description TLV.
		— **system-name** specifies the system name TLV.
		
		Example
		• This command enables the system description TLV:
		`switch(config)# lldp tlv-select system-description`
		`switch(config)#`
		• This command disables the system description TLV:
		`switch(config)# no lldp tlv-select system-description`
		`switch(config)#`
		• This command enables the max-frame-size TLV:
		`switch(config)# lldp tlv-select max-frame-size`
		`switch(config)#`
		• This command disables the max-frame-size TLV:
		`switch(config)# no lldp tlv-select max-frame-size`
		`switch(config)#`
		
		Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 592.

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Cisco NX-OS 6.2 Effective date of registration: 11/13/2014	**show lldp traffic** — Displays the LLDP counters, including the number of LLDP packets sent and received by the device, the number of discarded packets, and the number of unrecognized TLVs. Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 6.x (2013), at 18-9.	12.3.5.4 Viewing LLDP Traffic The **show lldp traffic** command displays the LLDP counters, including the number of packets sent and received, and the number of packets discarded by the switch. Arista User Manual v. 4.14.3F – Rev. 2 (October 2, 2014), at 581.